



UNITED STATES DEPARTMENT OF COMMERCE
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/442,568	11/18/99	DIMEO	F 401

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EXAMINER
PHAM, H

ART UNIT	PAPER NUMBER
2877	

DATE MAILED: 10/10/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/442,568

Applicant(s)

DIMEO ET AL.

Examiner

Hoa Q. Pham

Art Unit

2877

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 September 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 30-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 30-45 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 25 September 2001 is: a) ☐ approved b) ☒ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: |

DETAILED ACTION

Allowable Subject Matter

1. The indicated allowability of claims 30-45 is withdrawn after a further review of the reference(s) to Ito et al (4,661,320) and Griessen et al. Rejections based on the newly cited reference(s) follow.

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "**optical waveguide**" in claim 18-20, "**a light source**" and "**a thermal energy source**" in claim 30 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

2. Applicant is noted that the drawings faxed on September 25, 2001 have not been entered because they introduce new matter into the disclosure, for example, in new figure 1B, **the specification does not teach that the heating element (17) is arranged between the light source (10) and near the film layer (12) and protective layer (14).**

3. With respect to the amendment filed on 9/4/01, claims 1-20 and 46-62 have been canceled and claims 30-45 are pending.

Specification

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 30-45 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The specification does not set forth how the "light source" and the "thermal energy source" are arranged so that to enable any person skilled in the art to make and use the same.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 30, 33, and 34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 30 and 33-34 are confused because claim 30 discloses two sources (light source and thermal energy source) and claims 33-34 recite that two sources are from the same element (claim 33) or different element (claim 34). Thus, claim 33 fails to further limitation of claim 30 and claim 34 is repeated.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 30-33, 35, 36, 40, and 44 are rejected under 35 U.S.C. 102(b) as being fully anticipated by Ito et al (4,661,320).

As understood from the present specification, a light source can perform both functions, heating and lighting. Regarding claim 30; Ito et al discloses a light source (5), detector (6) and an optical barrier (1) therebetween, wherein the optical barrier response to the presence of the hydrogen by responsively changing from a first optical state to a different second state to indicate the presence of hydrogen gas in the gaseous environment. See figure 1 and column 3, line 64 through column 4 line 13.

Regarding claims 31-32, Ito et al teaches that the light source is a light emitting diode (LED) (column 2 lines 58-59).

Regarding claim 33, the LED can function both heating and lighting.

Regarding claim 35, see column 2, line 59 for photodiode.

Regarding claim 36, Ito et al teaches that protective film comprises a palladium film (column 3 lines 19-20).

Regarding claims 40 and 44, Ito et al teaches that the thin film is overlaid by palladium (Pd) , platinum (Pt), etc...(column 3 line 11).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 34, 37-39, 41-43 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ito et al in view of Griessen et al (Journal of Alloys and Compounds, vol. 153-154 (1997)).

Regarding claim 34, Ito et al does not teach the use of two separate sources (light source and thermal energy source); however, it would have been obvious to use two source instead of one disclosed by Ito et al because they would function in the same manner.

Regarding claims 37-39; Ito et al does not explicitly teach that the barrier comprises yttrium thin film, trivalent rare earth metals, etc...; however, such a feature is known in the art as taught by Griessen et al. Griessen et al (of record) teaches that the hydrogen can be determined on the switchable optical properties of Yttrium and lanthanum hydride films. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention

was made to replace the barrier of Ito et al by a Yttrium and lanthanum hydride films of Griessen et al for the same purpose of determining the presence of hydrogen gas in a gaseous environment.

Regarding claims 41-43, and 45; it is well known in the art that a hydrogen-pereable material is doped with a dopant such as Mg, Al, Ca, etc... to form a rare earth metal device. In addition, It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a multiplicity of hydrogen gas detectors if plurality of regions are detected.

Remarks

12. - With respect to the telephone conversation on 9/25/01, applicant agreed to submit a proposed drawings and proposed amendment; however, the proposed drawings introduce new matter into the disclosure and the proposed amendment has never been received even though a couple of phone calls to remind.

- After a further review the specification and the references, the allowed claims are withdrawn and a new ground of rejection is applied above.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hoa Q. Pham whose telephone number is (703) 308-4808. The examiner can normally be reached on 6:30 AM to 5 PM, Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on (703) 308-4881. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



Hoa Q. Pham
Primary Examiner
Art Unit 2877

Pham/hp
October 3, 2001